

## **REMARKS**

### **Amendments**

Claim 9 has been amended to incorporate the term “precursor” to provide literal antecedent basis for this claim.

Claims 1-4, 6-12 and 16 are pending in the application. Claims 1-4, 6-12 and 16 have been rejected.

### **Claim Rejections – 35 USC § 112**

Claim 9 has been rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Specifically, the claim has been objected to as failing to set forth if the precursor contains a plastic. The claim has been amended to clarify that the plastic referred to in the claim is the plastic precursor.

### **Claim Rejections – 35 USC § 103**

Claims 1-4, 6-12 and 16 have been rejected under 35 U.S.C. 103(a) as being unpatentable over EP 0 695 501 A1 in view of Weaver (U.S. Patent No. 2,806,798) and Krall et al (U. S. Patent No. 5,976,562).

The present invention relates to a process for preparing an antimicrobial plastic body. This antimicrobial effect is achieved by incorporation of inorganic particles in a precursor, wherein at least one component of the precursor is treated with a metal colloid solution that is stabilized by use of a protective agent. The use of a protective agent in this environment is unique, and provides advantages both in manufacture and product performance. See the present specification at page 2, lines 8-10

EP ‘501 describes a metallic bactericidal agent that comprises ceramic or base metal particles having silver metal particles dispersively fixed thereon. In this patent, antibacterial activity is afforded to a surface by embedding these particles in a plastic material such that a

portion of each particle is exposed over the surface. See paragraph [0009]. As acknowledged in the Office Action, EP '501 does not teach forming a metal colloid that is stabilized using a protective agent.

Weaver relates to preparation of colloidal silver for use as a blue light-absorbing layer in multi-layer color films. Weaver provides a change in the preparation of photographic films by changing the prior process of providing a colloidal silver sol from reducing silver nitrate and silver oxide in the presence or absence of protective colloid to reducing a silver bromide sol in the presence of a protective colloid with a reducing agent having a reduction potential of at least 0.3. The resulting silver sol is freed of soluble inorganic salts by coagulating the protective colloid and washing the gel or coagulated product. The thus washed product is remelted and coated in a multilayer film. See column 1, lines 35-54 and Example II. The resulting coating does not have a photographic action on a gelatin emulsion layer coated adjacent to it. See column 2, lines 32-33.

The skilled artisan would have had no motivation to combine (1) a first reference teaching the provision of an antibacterial surface by fixing silver metal particles to ceramic or base metal particles and embedding these particles in a plastic material such that a portion of each particle is exposed over the surface, with (2) a second reference related to preparation of a photographic coating material that does not act on a layer adjacent to it. The Weaver and EP '501 disclosures are concerned with completely non-analogous arts, and one would have no motivation whatsoever to combine these references and indeed could not predict a benefit from even attempting to combine them. As noted above, EP'501 requires fixing silver metal particles onto ceramic or base metal particles as part of their operative structure. In contrast, the silver particles of Weaver are generated in the sol with no teaching or suggestion of absorption of the silver particles onto inorganic particles. Because the photographic process requires use of "the smallest size particles" (column 1, line 34), absorption of the silver onto larger particles is counterindicated by Weaver. The references therefore contain internal teachings that indicate that combination is inappropriate.

Krall '562 is cited for its teaching of forming articles from polyurethane containing fillers or additives. It is respectfully submitted that the method taught by Krall is based on a completely different concept than the present invention or EP'501. Krall does not teach to deposit the silver in a colloid form. Krall even indicates that the use of colloids is

disadvantageous (column 2, lines 26 to 31). Krall thus teaches a system where use of a colloid is avoided in favor of simply forming a thin silver layer on a blank, and comminuting and/or melting the blank to form the solid body. Because this reference purposefully avoids the use of colloids, combination of Krall with references relating to manipulation of colloids is improper and would not be considered by the skilled artisan.

Even if one were to combine Krall with EP '501 (which is shown above to be improper), the combination still lacks the use of a protective agent to stabilize a metal colloid. One would not have been motivated by the teachings of these references to carry out a process for preparing an antimicrobial plastic body where the included treatment of at least one component of the precursor with a metal colloid solution wherein the metal colloid is stabilized by use of a protective agent.

### CONCLUSION

In view of the above amendment and remarks, it is respectfully submitted that the foregoing is fully responsive to the outstanding Office action. Favorable consideration and passage of the present application to issue is therefore earnestly solicited. In the event that a phone conference between the Examiner and the Applicant's undersigned attorney would help resolve any issues in the application, the Examiner is invited to contact said attorney at (651) 275-9811.

Respectfully Submitted,

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